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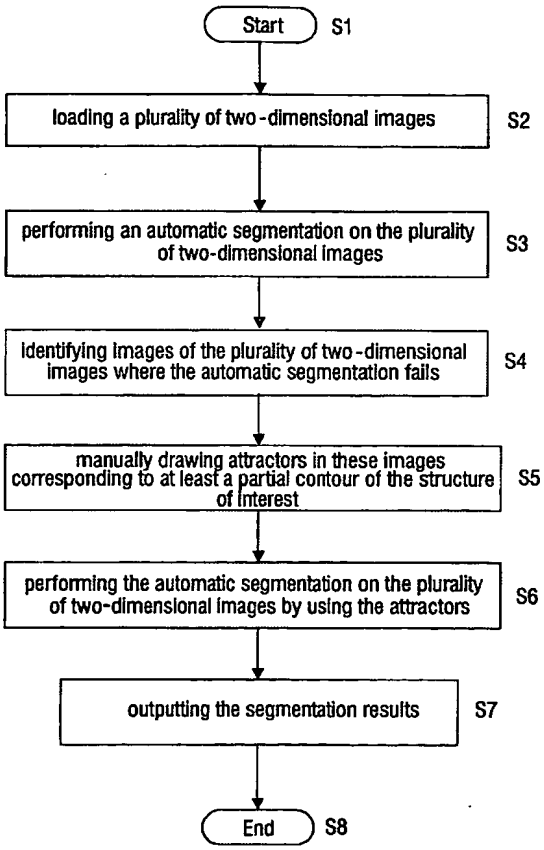
(54) Title: 3D IMAGE SEGMENTATION



(57) Abstract: A delineation of a structure of interest can be performed by fitting 3D deformable models, for example, represented by polygonal measures, to the boundaries of the structure of interest. The deformable model fitting process is guided by minimization of the sum of an external energy, based on image feature information, which attracts the mesh to the organ boundaries and an internal energy, which preserves the consistent shape of the mesh. A frequent problem is that the images do not contain sufficient reliable image feature information, such as image gradients, to attract the mesh. According to the present invention, manually drawn attractors in the form of complete or partial contours corresponding to boundaries of the structure of interest are placed into the images which do not contain sufficient feature information. These attractors may easily be discriminated by a subsequent segmentation process. Due to this, advantageously, a 3D deformable model can be fitted to structures of interest in images with poor contrast, noise or image artifacts.

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